

We claim:

- 1 1. An apparatus, comprising:
2 a first probe including a first probe body defining a proximal
3 portion and a distal portion and a loop structure associated with the distal
4 portion;
5 at least one operative element associated with the loop
6 structure; and
7 a second probe including a second probe body defining a
8 proximal portion and a distal portion and an expandable push structure
9 associated with the distal portion.
- 1 2. An apparatus as claimed in claim 1, wherein at least one of the
2 first and second probe bodies comprises a catheter body.
- 1 3. An apparatus as claimed in claim 1, wherein the first probe body
2 defines a distal end and the loop structure is associated with the distal end of
3 the first probe body.
- 1 4. An apparatus as claimed in claim 1, wherein the loop structure
2 defines an opening having a width, the expandable push structure defines a
3 maximum width and the maximum width of the expandable push structure is
4 greater than the width of the opening.
- 1 5. An apparatus as claimed in claim 1, wherein the at least one
2 operative element comprises a plurality of spaced electrodes.
- 1 6. An apparatus as claimed in claim 1, wherein the proximal
2 portion of the first probe body is less flexible than the distal portion of the first
3 probe body.

1 7. An apparatus as claimed in claim 1, wherein the first probe body
2 defines a longitudinal axis and the loop structure defines a plane oriented at a
3 non-zero angle to the longitudinal axis.

1 8. An apparatus as claimed in claim 7, wherein the plane is
2 perpendicular to the longitudinal axis.

1 9. An apparatus as claimed in claim 1, wherein the first probe body
2 defines a distal end and includes a pull wire extending distally from the distal
3 end.

1 10. An apparatus as claimed in claim 9, wherein the first probe body
2 defines an aperture located in spaced relation to the distal end and the pull
3 wire extends into the aperture and to the proximal portion of the first probe
4 body.

1 11. An apparatus as claimed in claim 9, wherein the first probe
2 includes a sheath, the first probe body is located at least partially within the
3 sheath and defines an exterior, and the pull wire extends into the sheath and
4 to the proximal portion of the first probe body along the exterior.

1 12. An apparatus as claimed in claim 1, wherein the loop structure
2 defines a closed loop.

1 13. An apparatus as claimed in claim 12, wherein the distal portion
2 of the first probe body defines an aperture and the closed loop passes
3 through the aperture.

1 14. An apparatus as claimed in claim 12, wherein the closed loop is
2 fixedly secured to the distal portion of the first probe body.

1 15. An apparatus as claimed in claim 1, wherein the expandable
2 push structure comprises a basket structure including a plurality of flexible
3 splines.

1 16. An apparatus as claimed in claim 15, wherein second probe
2 body defines a longitudinal axis and the splines are symmetrically spaced
3 about the longitudinal axis.

1 17. An apparatus as claimed in claim 15, wherein the basket
2 structure defines a generally ellipsoidal shape.

1 18. An apparatus as claimed in claim 15, wherein the basket
2 structure defines a generally spheroidal shape.

1 19. An apparatus as claimed in claim 15, wherein the basket
2 structure includes a conical portion and a flared portion.

1 20. An apparatus as claimed in claim 15, wherein the basket
2 structure defines a funnel shape.

1 21. An apparatus as claimed in claim 1, wherein the expandable
2 push structure comprises an inflatable structure.

1 22. An apparatus as claimed in claim 21, wherein the second probe
2 includes an infusion lumen operatively connected to the inflatable structure.

1 23. An apparatus as claimed in claim 21, wherein the inflatable
2 structure defines a spherical shape.

1 24. An apparatus as claimed in claim 21, wherein the inflatable
2 structure includes a plurality of radially extending members.

1 25. An apparatus as claimed in claim 21, wherein the inflatable
2 structure defines an ellipso-toroidal shape.

1 26. An apparatus as claimed in claim 1, wherein the second probe
2 body defines a longitudinally extending lumen and a distal opening
3 associated with the lumen.

1 27. An apparatus as claimed in claim 26, wherein the second probe
2 body defines a distal end and the expandable push structure comprises a
3 plurality of arms that bow outwardly when the proximal portion and distal end
4 of the second probe body are moved closer together.

1 28. An apparatus as claimed in claim 26, wherein the expandable
2 push structure comprises an inflatable push structure.

1 29. An apparatus as claimed in claim 1, wherein the second probe
2 includes an anchor distal of the expandable push structure.

1 30. An apparatus as claimed in claim 29, further comprising:
2 a diagnostic device carried by the anchor.

1 31. A method of forming a lesion in body tissue, comprising the
2 steps of:

3 positioning a first probe including a first probe body defining a
4 proximal portion and a distal portion, a loop structure associated with the
5 distal portion, and at least one operative element associated with the loop
6 structure such that the loop structure is at least adjacent the tissue;

7 positioning a second probe including a second probe body
8 defining a proximal portion and a distal portion and an expandable push
9 structure associated with the distal portion such that the expandable push
10 structure is adjacent the loop structure; and

11 urging the loop structure in the direction of the tissue with the
12 expandable push structure.

1 32. A method as claimed in claim 31, further comprising the step of:
2 inserting a predetermined portion of the second probe through
3 the loop structure.

1 33. A method as claimed in claim 32, further comprising the step of:
2 inserting the first and second probes into a sheath.

1 34. A method as claimed in claim 32, wherein the tissue is
2 associated with a body orifice, the method further comprising the step of:
3 inserting the predetermined portion of the second probe into
4 body orifice.

1 35. A method as claimed in claim 31, further comprising the step of:
2 inserting a predetermined portion of the second probe through
3 the loop structure prior to positioning the first probe adjacent the body tissue.

1 36. A method as claimed in claim 31, wherein the step of positioning
2 a first probe adjacent tissue comprises positioning the first probe adjacent
3 heart tissue.

1 36. A method as claimed in claim 31, wherein the step of positioning
2 a first probe adjacent tissue comprises positioning the first probe adjacent
3 pulmonary vein tissue.

1 37. A method as claimed in claim 31, wherein the step of positioning
2 a first probe adjacent tissue comprises passing the first probe through a
3 lumen in the second probe.

1 38. A sheath use with a probe including at least one operative
2 element, the sheath comprising:
3 an elongate body defining a probe lumen, a proximal portion, a
4 distal portion, and a distal opening; and
5 an expandable push structure associated with the distal portion.

1 39. A sheath as claimed in claim 38, wherein the elongate body
2 defines a distal end and the expandable push structure is located in spaced
3 relation to the distal end.

1 40. A sheath as claimed in claim 38, wherein the elongate body
2 includes an anchor distal of the expandable push structure.

1 41. A sheath as claimed in claim 40, further comprising:
2 a diagnostic device carried by the anchor.

1 42. A sheath as claimed in claim 38, wherein the expandable push
2 structure comprises a basket structure including a plurality of flexible splines.

1 43. A sheath as claimed in claim 42, wherein elongate body defines
2 a longitudinal axis and the splines are symmetrically spaced about the
3 longitudinal axis.

1 44. A sheath as claimed in claim 38, wherein the expandable push
2 structure comprises an inflatable structure.

1 45. A sheath as claimed in claim 44, wherein the elongate body
2 includes an infusion lumen operatively connected to the inflatable structure.

1 46. A sheath as claimed in claim 44, wherein the inflatable structure
2 defines an ellipso-toroidal shape.

1 47. A sheath as claimed in claim 38, wherein the elongate body
2 defines a distal end and the expandable push structure comprises a plurality
3 of arms that bow outwardly when the proximal portion and distal end of the
4 second probe body are moved closer together.